

ORIGINAL ARTICLE

Knowledge and Practice on Diarrhea Management among mothers of under five year Children

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ABSTRACT

Introduction: Diarrhea is one of the commonest cause of morbidity in children in developing countries. In Nepal, the prevalence of diarrhea is about 15% with higher rate in rural areas. The reduction in diarrhea may be due to correct case management as per standard treatment guidelines recommended by WHO and use of oral rehydration therapy as keystone in the diarrhea management. In developing countries, Water, Sanitation and hygiene (WASH) is a crucial aspect of public health. Unfortunately, inadequate WASH leads to death of approximately 842,000 individuals each year, accounting for 58% of all deaths caused by diarrheal diseases. The objective of this study was to assess the knowledge and management practice of diarrhea among mothers of under five children in community of Balwa Municipality, Mahatori, Nepal.

Methods: A descriptive cross-sectional study was conducted in Balwa Rural Municipality targeting mothers of children under five years. Using purposive sampling, a sample size of 384 were selected based on confidence level of 95% and an acceptable error of 5%. Data were collected through structured individual interviews with a self-administered questionnaire, pretested on 10% of the sample population. Data were entered in Microsoft Excel and descriptive analysis was performed by SPSS 16.

Results: The study revealed that most mothers in Balwa Municipality have a high awareness of diarrhea transmission and ORS preparation but exhibit varied management practices. Despite adequate knowledge of diarrhea management, many mothers demonstrate poor practices, particularly in fluid intake and dietary management during diarrhea. The analysis showed a significant discrepancy between knowledge and practice levels, with a notable portion of mothers lacking effective management practices. Socio-demographic factors such as education and income also influenced these practices.

Conclusion: The study revealed that mothers of Balwa Municipality possess substantial knowledge about diarrhea management, gaps remain in practical application. Inadequate practices influenced by socio-demographic factors undermine effective diarrhea management. Addressing these gaps through targeted education and interventions is crucial for improving child health outcomes. Enhancing practical skills alongside knowledge is essential for better management of diarrhea in the community.

Keywords: Diarrhea, knowledge, management, WASH

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INTRODUCTION

According to World Health Organization (WHO), diarrhea is defined as the passage of three or more loose or watery stools in a 24-hours period. It can last several days and deprive the body of the water and salts required for survival, resulting in severe dehydration and death or long-term consequences.¹ In Nepal, the prevalence of diarrhea is about 15% with higher rate in rural areas. In the last two decades the mortality due to diarrhea in children under 5 years has reduced. This reduction may be due to correct case management as per standard treatment guidelines recommended by WHO and use of oral rehydration therapy as keystone in the management.² Moreover, diarrheal diseases cause serious economic problems for developing countries. The leading cause of death from acute diarrhea is the loss of water and essential minerals, which can be compensated in most cases by an oral rehydration solution (ORS).³

Acute diarrheal disease is responsible for the majority of diarrheal illnesses (less than 14 days). However, chronic or persistent diarrhea is defined as an episode that lasts longer than two weeks. Various preventive techniques were reported in the literatures including hygiene, diet, medications, and supplements; although according to a general classification, health care, breastfeeding, immunization, supplemental zinc, and probiotics could be used. Simple remedies could be taken to reduce the number of mortality. Fluid therapy with Oral Rehydration Solution (ORS) and other standard home solutions, non-stop feeding during diarrhea, and continued breastfeeding are the typical treatments.⁴ In developing countries, Water, Sanitation and hygiene (WASH) is crucial aspect of public health in the 21st century. Unfortunately, inadequate WASH leads to the death of approximately 842,000 individuals each year, accounting for 58% of all deaths caused by diarrheal diseases. Effective water, sanitation, and hygiene practices are key in preventing diarrhea. Unsafe WASH is responsible for the deaths of around 1,000 children under 5 every day. The lack of knowledge of the risks of unhygienic child stool disposal is a contributing factor to the low uptake of sanitary toilet use for children.⁵ Diarrhea remains a leading cause of childhood morbidity and mortality

worldwide, particularly in developing countries. Children under 5 are especially vulnerable due to their immature immune systems and limited access to clean water and sanitation facilities. Understanding how mothers manage diarrhea in their children is essential for reducing its prevalence and impact on child health. Mothers often play a primary role in the care of young children, including managing their health and illnesses. Investigating mothers' knowledge and practices regarding diarrhea management provides insight into the frontline caregivers' understanding and behaviors in responding to this common childhood ailment. Effective management of diarrhea includes preventive measures such as proper hygiene practices, safe drinking water, and adequate nutrition. Studying mothers' knowledge can identify gaps in understanding these preventive measures and help tailor educational interventions to improve health outcomes. The findings on mothers' knowledge and practices can inform policy decisions aimed at improving child health outcomes. By identifying areas of improvement and effective interventions, policymakers can allocate resources more effectively and implement targeted interventions to address diarrhea burden among children under Five year.

METHODOLOGY

This study employed a descriptive cross-sectional design to assess the knowledge and perceptions of diarrhea management among mothers of children under five years of age in Balwa Rural Municipality. The study population consisted of mothers residing in the municipality, selected using a purposive sampling technique. Data were collected through individual structured interviews using a self-administered questionnaire. The questionnaire was pretested on 10% of a similar population outside the study area for clarity and relevance. Permission and written consent were obtained from the authorities and participants, respectively and the study objectives were explained to the respondents. The collected data were checked for completeness and consistency, coded and edited based on the research objectives. Descriptive statistics were used for analysis. Data were presented in Microsoft Excel and analysis was performed using SPSS version 16.

RESULTS

Table 1. Sociodemographic Characteristics

Characteristics (n=125)	Frequency	Percentage
Age		
19-22 years	22	17.6
23-25 years	43	34.4
26-28	36	28.8
Above 28 years	24	19.2
Family type		
Nuclear	38	30.4
Joint	86	68.8
Extended	1	.8

Table 1 showed demographic and socio-economics factor of respondent, it was found that maximum number of respondent were in the age group of 23-27 (34.4%). and the majority of the family was joint (68.8%).

Table 2. Educational Characteristics

Education of mother	Frequency	Percentage
Literate	34	27.2
Illiterate	54	43.2
Primary	25	20.0
Lower secondary level	5	4.0
Above secondary	7	5.6
Occupation of mother		
House wife	80	64.0
Agriculture	41	32.8
Service	1	.8
Business	3	2.4
Source of income		
Agriculture	111	88.8
Service	33	2.4
Labor	4	3.2
Other	7	5.6

The table 2 showed that the majority of the mothers

were illiterate (43.2%). The majority of mothers were housewives (64%). The majority of the mother source of income was from agriculture (88.8%).

Table 3. Knowledge on diarrhea

Characteristics (n=125)	Frequency	Percentage
How often watery....		
1 time	8	6.4
2 time	32	25.6
3 time	40	32.0
more than 3	45	36.0
For what....		
Stale food	15	12.0
Unfiltered water	65	52.0
Unhygienic practice	34	27.2
None	11	8.8
From what age children get diarrhea		
Below 1 years	46	36.8
1-2 years	36	28.8
up to 5 years	20	16.0
All	23	18.4
What are the treatment and preventable measure diarrhea		
Zinc	46	36.8
Jeebanjal (ORS)	55	44.0
All	24	19.2
Choose any one tablet that is use for diarrhea treatment tablet		
Zinc	104	83.2
Paracetamol	17	13.6
Non	4	3.2
At thing should you was your hand when you clean child		
Water	33	26.4
Soap with water	87	69.6
sand with water	4	3.2
ALL	1	.8
According to your openunion a child suffering from diarrhea there do it focal matter		
Toilet	106	84.8
open place	17	13.6
All	2	1.6

Table 3 showed that most of the mothers (36.0%) believe that more than three watery stools indicate diarrhea. The primary perceived cause of diarrhea is unfiltered water (52%). A significant portion (36.8%) think children below one year are most susceptible to diarrhea. For treatment, 44.0% recognize Jeebanjal (oral rehydration solution) as an effective measure. When it comes to treatment tablets, the majority (83.2%) choose zinc. In terms of hygiene practices, 69.6% of mothers wash their hands with soap and water after cleaning a child. For disposing of fecal matter from a child with diarrhea, 84.8% prefer using a toilet.

Table 4. Knowledge about Diarrhea

Did you know diarrhea is transmitted from one person to another person		
Yes	108	86.4
No	17	13.6
If yes then how make ORS		
1 liter	93	74.4
2 liter	17	13.6
3 liter	10	8.0
4 liter	5	4.0
Yes	75	60.0
No	50	40.0

Table 4 showed that the majority of mothers (86.4%) know that diarrhea can be transmitted from one person to another. Among those aware, 74.4% correctly identify that ORS should be prepared with 1 liter of water. Additionally, 60.0% are aware of the proper preparation and usage of ORS.

Table 5. Management on diarrhea

Characteristics (n=125)		Frequency (f)
What did you use clean your hand		
Soap and water	119	95.2
only water	4	3.2
Other	2	1.6
Did you give jeevanjal to your during diarrhea		
YES	107	85.6
No	18	14.4

How long did you zinc tablet to your child

10 day	77	61.6
14 day	32	25.6
5 day	16	12.8

Type of fluid

Plain water	23	18.4
Juice	18	14.4
Dal ko jhol (liquid pulse)	84	67.2

How frequently did you give additional fluid to child during diarrhea

2-4 times	47	37.6
2-6 times	71	56.8
When baby felt thirsty	7	5.6

Did you breastfeed your child during diarrhea

Yes	115	92.0
NO	10	8.0

What kind of food did you give to the child during diarrhea

Banana	55	44.0
Jaulo (liquid rice)	68	54.4
Dal ko jaul (liquid pulse)	2	1.6

Table 5 presents that most of the mothers (95.2%) used soap and water to clean their hands. A large majority (85.6%) administered Jeevanjal (oral rehydration solution) to their child during diarrhea. For zinc tablet administration, 61.6% gave it for 10 days. The most common type of fluid given was Dal ko jhol/liquid pulse (67.2%). Additionally, 56.8% provided additional fluids to the child 2-6 times during diarrhea. The majority (92.0%) continued breastfeeding during the child's diarrhea. For food, 54.4% gave Jaulo (liquid rice) to their child.

Table 6. Management of Diarrhea

Did you know diarrhea is transmitted from one person to another person		
Yes	108	86.4
No	17	13.6
If yes then how make ORS		
1 liter	93	74.4

2 liter	17	13.6
3 liter	10	8.0
4 liter	5	4.0
Yes	75	60.0
No	50	40.0

Table 6 showed that majority (86.4%) knew that diarrhea can be transmitted from one person to another. Among those aware, 74.4% correctly know that ORS should be made with 1 liter of water. Additionally, 60.0% of mothers are knowledgeable about the correct preparation and use of ORS.

Table 7. Knowledge level on diarrhea

Knowledge Level onDiarrhea		
Variables (n=125)	Frequency(f)	Percentage(%)
Inadequate knowledge	70	56.0
Adequate Knowledge	55	44.0

Table 7 showed that the majority of mothers (56.0%) have inadequate knowledge about diarrhea which indicated a significant portion of the population lack sufficient understanding of the condition.

Table 8. Practice level on Diarrhea

Practice Level on diarrhea		
Variables n=125	Frequency(f)	Percentage(%)
Poor Practice	79	63.2
Good Practice	46	36.8

Table 8 showed that the majority of mothers (63.2%) exhibit poor practices in managing diarrhea while 36.8% demonstrate good practices.

Table 9. Management Level

Management Level		
Knowledge Level	Poor management f (%)	Good Management f(%)
Inadequate Knowledge	48 (53.9)	16(44.4)
Adequate Knowledge	41(46.1)	20(55.6)

Table 9 showed the relationship between knowledge levels and management practices of diarrhea among mothers. Among those with inadequate knowledge, 53.9% exhibit poor management practices, while 44.4% exhibit good management practices. Conversely, among those with adequate knowledge, 46.1% exhibit poor management practices and 55.6% exhibit good management practices.

DISCUSSION

The study on knowledge and practice of diarrhea management among mothers of children under five in Balwa Municipality, Mahatori, reveals important insights into maternal understanding and practices related to diarrhea. The findings indicate that majority of mothers are aware of the transmission of diarrhea and the correct preparation of oral rehydration solution (ORS). There are significant gaps in both knowledge and practice which affect the management of the condition. In comparison to other studies, the knowledge levels reported in this study align with some findings but diverge in other aspects. Feleke et al. (2022) found that although many mothers in Bereh District, Oromia, Ethiopia, had basic knowledge about diarrhea, gaps remained in their understanding of feeding practices during illness.¹ Similarly, our study shows that most mothers recognize the importance of ORS and handwashing, still they exhibit varying practices in fluid intake and food management during diarrhea episodes.

Rehan et al. (2003) emphasize that there is a need for increased maternal education on managing acute diarrhea, which echoes the need identified in our study.² Although significant portion of mothers in our study are aware of how to make ORS, gaps remain in their practical application and adherence to recommended practices, such as the duration of zinc tablet administration and the frequency of additional fluid intake. This highlights a broader issue noted by Birtukan Dereje, who observed similar deficiencies in maternal knowledge and practices in Ethiopia.

Abdinia (2014) and Khalili et al. (2013) both reported that knowledge alone does not always translate into effective management practices.³⁻⁴ This was also

evident in our study where despite having adequate knowledge, a substantial number of mothers still exhibit poor management practices. Zahid et al. (2014) found that awareness does not always correspond with effective home management, underscoring the complexity of translating knowledge into practice.¹¹ Our findings are also consistent with Li et al. (2020) and Shah et al. (2019), who noted that there is significant awareness of diarrhea management among mothers in Nepal, practical application remains inconsistent.⁶⁻⁷ This inconsistency is reflected in our study where, despite high levels of awareness about transmission and treatment, practices such as the proper use of ORS and the continuation of breastfeeding during diarrhea are not universally adopted.

Moreover, the study by Karki et al. (2010) highlights that socio-economic factors play a crucial role in the management of diarrhea.⁸ Our study corroborates this, showing that knowledge levels are relatively high, the implementation of effective management practices is influenced by socio-economic factors such as education and income. The findings from Upashe and Shil (2021) and Ghasemi et al. (2013) further support the need for targeted educational interventions.⁹⁻¹⁰ These studies indicate that educational programs are essential for bridging the gap between knowledge and practice.

CONCLUSION

The study on knowledge and practice of diarrhea management among mothers of children under five years in Balwa Municipality, Mahatori revealed that educational levels among mothers are generally low, with a significant portion being illiterate. Most mothers are housewives and agriculture is the primary source of income. There is significant gap in understanding the frequency of additional fluid intake and the importance of continuous breastfeeding during diarrhea. Our findings recommend the need for targeted educational interventions to improve knowledge and practices regarding diarrhea management among mothers.

ACKNOWLEDGEMENTS

The authors thank all the participants' involved in this study for their cooperation and support.

Funding Statement

This study received no specific grant from any funding agency.

Conflicts of Interests

No conflicts of interests.

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